POWER GENERATION



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SAIPEM TODAY

SAIPEM TODAY IS A WORLD LEADER IN THE GLOBAL SUPPLY OF ENGINEERING, PROCUREMENT, PROJECT MANAGEMENT, CONSTRUCTION AND DRILLING SERVICES WITH DISTINCTIVE CAPABILITIES IN THE DESIGN AND EXECUTION OF LARGE-SCALE OFFSHORE AND ONSHORE PROJECTS.

Saipem has a strong bias towards oil and gas frontiers, namely activities in harsh and remote areas, in deep waters as well as in extremely cold and hot environments, applying significant technological competences in many diverse fields such as gas monetization and heavy oil exploitation.

Saipem is organized in two Business Units: Engineering & Construction and Drilling.





SAIPEM ENGINEERING & CONSTRUCTION

FOLLOWING AN AGGRESSIVE GROWTH STRATEGY, WHICH INCLUDED IN THE LAST DECADE THE ACQUISITION OF MANY CONSTRUCTION, TECHNOLOGY AND ENGINEERING COMPANIES, MOST PROMINENTLY OF SNAMPROGETTI, BOUYGUES OFFSHORE, SOFRESID AND MOSS MARITIME, SAIPEM HAS BECOME ONE OF THE WORLD LARGEST AND MOST COMPLETE ENGINEERING AND CONSTRUCTION COMPANIES IN THE GLOBAL OIL AND GAS MARKETS, ONSHORE AND OFFSHORE.



Ever since its initial steps in the fifties as the construction division of Snam, the pipeline company of the Eni Group in Italy, Saipem has pursued a systematic growth strategy, based on the development of internal assets, expertise and skilled resources, as well as on the acquisition of other players with their own asset bases, such as Micoperi in late eighties, and many others.

In the last decade, Saipem has continued its growth by acquiring Bouygues Offshore and Sofresid in France, Moss Maritime in Norway, IDPE in India and Snamprogetti in Italy, and by carrying out a multibillion investment program into the expansion of its offshore construction and drilling fleets. Since the year 2000, Saipem's market capitalization has grown more than sixfold and its revenues tenfold.(*)

The organizational integration of this considerable asset base, namely the network of engineering centres, fabrication and support yards in several continents as well as the offshore construction fleet, has been completed gradually over the years - most recently with the creation of a unified Business Unit Engineering & Construction, an entity with over 30,000 employees (excluding corporate and BU Drilling staff) from over 100 nationalities, with over 60 permanent establishments and numerous project execution centres around the globe, and with yearly revenues exceeding 10 billion €/y; all held together by outstanding project management skills.

Through the involvement of our global EP(I)C hubs in Milan, Rome and Fano (Italy), Paris (France) and Chennai (India), which operate in connection with a growing number of medium size and smaller regional engineering and project execution centres employing altogether over 7,000 engineers, Saipem balances high project execution quality with a competitive cost and - most importantly - with a major emphasis on local know-how and content.

This well-integrated multicenter approach provides a consistent design and robust execution philosophy on all our projects worldwide. Top priority is provided throughout to all HSEQ aspects.

Saipem therefore offers a complete range of project definition and execution services, offshore and onshore, particularly for the complex "mega-projects" required by the market today: from feasibility and conceptual studies to complex integrated solutions combining design, engineering, procurement, field construction, fabrication and offshore installation; also revamps, upgradings, maintenance, decommissionings, reclamations and decontaminations.

Saipem today operates in virtually every world market, often in remote locations with harsh environmental conditions and challenging logistics, leveraging on its proven experience across the most significant product lines in the oil and gas production onshore, offshore, in deepwater; gas and oil transportation via offshore and onshore pipeline systems; midstream, refining, chemicals, power generation from fossil as well as from renewable sources; environmental industries, maritime works and infrastructure.

This new series, therefore, outlines Saipem's integrated references in engineering and construction markets offshore and onshore, according to individual business and technology lines.

POWER GENERATION

DURING OUR HISTORY, WHICH AT THIS POINT EXCEEDS 50 YEARS, SAIPEM AND OTHER CONSTITUENT COMPANIES HAVE DESIGNED AND BUILT MORE THAN 40 PLANTS PRODUCING POWER FROM A VARIETY OF FEEDSTOCKS, IN MANY WORLD MARKETS, FOR A TOTAL INSTALLED CAPACITY EXCEEDING 10,000 MW.



In recent years, we have built more than 20 Combined and Simple Cycle Power Plants (CCPP and SCPP) including two large CCPPs exceeding 1,000 MW each.

In addition, we have designed and built on an EPC/Lump Sum Turn Key basis the two largest IGCC (Integrated Gasification Combined Cycle) power plants in the world, based on heavy refinery residues as feedstocks, with the power production capacity of 550 MW and 512 MW respectively.

This performance has been achieved through a strong organization, a substantial engineering capability and a quick development of proper competences in critical areas. One of Saipem flagship achievements is the recent implementation of four large Combined Cycle Power Plants on a virtually simultaneous basis for EniPower, a wholly owned subsidiary of Eni and a new producer of power from gas.

This target has been achieved through:

- Standardization of the power generation module.
- Homogeneity of plant designs, minimizing the impact of the peculiarities of each site.
- ➤ Management of delays in permitting and approval processes.







Saipem has access to all the most advanced technologies and equipment in the power production sectors.

In particular, the Group is in a position to select and to offer to its clients the equipment that is best suited to meet their requirements, as we are not bound by any exclusivity agreement with gas or steam turbine manufacturers or boiler manufacturers.

However, Saipem has cooperated with all main gas turbine manufacturers: General Electric, Alstom Power, Ansaldo Energia, Mitsubishi Heavy Industries, Siemens.

Also in the power plant area, our Group organization is structured to carry out our primary mission of designing and building power plants based on EPC/Lump Sum Turn Key contracts, offering to our clients the advantages of single-point-responsibility and all-encompassing guarantees on cost, quality and completion timing for the new investments.

However, should the clients prefer a sequential execution mode, our range

of services covers also individual services, namely:

- Consulting and Feasibility Studies.
- Servironmental Impact Assessment.
- Basic and Detail Engineering.
- ≥ Project Management.
- Procurement.
- Construction Management and Supervision.
- ▶ Commissioning and Plant Start-up.
- ▶ Training.

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Qatar, Mesaieed	QAFCO V	200 (4GTG+1STG)	Frame 6E	Engineering Procurement Construction	2011
Italy, Priolo	Erg Nuce	480 (4GTG+2STG)	Frame 6FA	Engineering Procurement Construction	2009

PRIOLO 480 MW COMBINED CYCLE POWER PLANT - ITALY

- Huge number of interfaces with existing refinery
- A variety of complex operating modes
- Severe space constraints



GAS TURBINE GENERATOR							
n°	model		capacity	supplier			
4	Frame 6FA		75 MW	G.E.			
heat r	HEAT RECOVERY STEAM GENERATOR						
n°	pressure level	steam	re-heating	supplier			
4	3	85 t/h YES		NECCT			
STEAM TURBINE GENERATOR							
n°	capacity	casing	discharge	supplier			
2	90 MW	DOUBLE	RADIAL	Ansaldo			

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Italy, Ferrara	S.E.F.	790 (2GTG+2STG)	V94.3A	Engineering Procurement Construction	2008

FERRARA 790 MW COMBINED CYCLE POWER PLANT - ITALY

- Severe environmental constraints
- Large water system facilities



GAS TL	IRBINE GENERATOR						
n°	model		capacity	supplier			
2	V94.3A		260 MW	Ansaldo			
HEAT R	HEAT RECOVERY STEAM GENERATOR						
n°	pressure level	steam	re-heating	supplier			
2	3	360 t/h	YES	NECCT			
STEAM TURBINE GENERATOR							
n°	capacity	casing	discharge	supplier			
2	135 MW	DOUBLE	RADIAL	Ansaldo			

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Nigeria, Okpai	NAOC	480 (2GTG+1STG)	GT13	Engineering Procurement Construction	2006

OKPAI 480 MW COMBINED CYCLE POWER PLANT - NIGERIA

- Very difficult environmental conditions
- Early completion, fast track execution requirements
- Complex logistics



GAS TURBINE GENERATOR						
n°	model		capacity	supplier		
2	GT13		160 MW	Alstom		
HEAT RECOVERY STEAM GENERATOR						
n°	pressure level	steam	re-heating	supplier		
2	70	230 t/h YES		Alstom		
STEAM TURBINE GENERATOR						
n°	capacity	casing	discharge	supplier		
1	130 MW	SINGLE	RADIAL	Alstom		

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Italy, Brindisi	EniPower	1185 (3GTG+3STG)	V94.3A	Engineering Procurement Construction	2006

BRINDISI 1185 MW COMBINED CYCLE POWER PLANT - ITALY

- Largest power plant designed and built by Saipem
- Different cooling system of condensers
- Large seawater cooling tower



GAS TURBINE GENERATOR							
n°	model	model		supplier			
3	V94.3A		260 MW	Ansaldo			
HEAT F	HEAT RECOVERY STEAM GENERATOR						
n°	pressure level	steam	re-heating	supplier			
3	3	360 t/h	YES	NECCT			
STEAM TURBINE GENERATOR							
n°	capacity	casing	discharge	supplier			
3	135 MW	DOUBLE	RADIAL	Ansaldo			



COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Italy Mantova	EniPower			Engineering	
italy, mantova				Procurement	
		790 (2GTG+2STG)	V94.3A	Construction	2005
Italy, Ravenna	EniPower			Engineering	
				Procurement	
		790 (2GTG+2STG)	V94.3A	Construction	2004
Italy, Ferrera Erbognone	EniPower			Engineering	
		1050 (2GTG+2STG)	V94.3A	Procurement	
		(1GTG+1STG)	V94.2	Construction	2004

FERRERA ERBOGNONE 1050 MW COMBINED CYCLE POWER PLANT - ITALY

- First example of modularization
- GTG fed with syngas (see IGCC section)



GAS TURBINE GENERATOR						
n°	model		capacity	supplier		
2	V94.3A		260 MW	Ansaldo		
1	V94.2*		170 MW	Ansaldo		
*Fed with	Syngas					
Heat r	ECOVERY STEAM GENE	RATOR				
n°	pressure level	steam	re-heating	supplier		
2	3	360 t/h	YES	NECCT		
1	3	265 t/h	YES	NECCT		
STEAM	TURBINE GENERATOR					
n°	capacity	casing	discharge	supplier		
2	135 MW	DOUBLE	RADIAL	Ansaldo		
1	88 MW	DOUBLE	RADIAL	Ansaldo		

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Iran, Bandar Abbas	National Iranian Oil Company (NIOC)	180 (5GTG+1STG)	Frame 6E	Engineering Procurement Construction	1997
Iran, Arak	Arak Petrochemical Company	180 (5GTG+1STG)	Frame 6E	Engineering Procurement Construction	1993





COGENERATION POWER PLANTS (COPP)

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Saudi Arabia, Khursaniyah	Aramco Overseas Co. B.V.	370 (2GTG)	M501F	Engineering Procurement Construction	2009
Saudi Arabia, Qatif	Aramco Overseas Co. B.V.	144 (2GTG)	PG7121EA	Engineering Procurement Construction	2004

KHURSANIYAH 370 MW COGENERATION POWER PLANT – SAUDI ARABIA

The project was an integral part of a multibillion contract to Saipem Onshore for design and execution of a very large oil and gas production facility.

GAS TU	GAS TURBINE GENERATOR							
n°	model		capacity	supplier				
2	M501F		185 MW	Mitsubishi H.I.				
heat r	ECOVERY STEAM GENE	RATOR						
n°	pressure level	steam	pressure level	supplier				
2	1	270 t/h	18 bar	Nooter-Eriksen				



COGENERATION POWER PLANTS (COPP)

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Qatar, Ras Laffan	Ras Laffan LNG Co. Ltd.	39 (1GTG)	PG6561B	Engineering Procurement Construction	2003
Italy, Ravenna	Enichem / EniPower	188 (1GTG)	Frame 9E	Engineering Procurement Construction	2001

RAVENNA 188 MW COGENERATION POWER PLANT - ITALY

- Very early completion requirements
- Numerous interfaces with existing facilities



GAS TURBINE GENERATOR							
n°	model		capacity	supplier			
1	Frame 9E		123 MW	Thomassen			
HEAT RECOVERY STEAM GENERATOR							
n°	pressure level	steam	post-firing	supplier			
1	2	236 t/h	YES	Ansaldo			



COGENERATION POWER PLANTS (COPP)

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Italy, Milazzo	Raffineria Mediterranea	40 (1010)	Eramo 5	Engineering	1001
Italy Malpansa Airpor	Italaimant S.n.A	49 (1010)		Engineering	1991
italy, maiperisa Airpor	italaiiport 3.p.A.	21 (2GTG)	PGT10	Services	1990
Italy, Sannazzaro de' Burgondi	Agip Raffinazione S.p.A.	56 (2GTG)	Frame 5	Engineering Services	1990
India, Jagdishpur	Indo Gulf Fertilizers and Chemicals Corp.	50 (2GTG)	Frame 5	Licence Engineering Procurement	1988



SIMPLE CYCLE POWER PLANTS (SCPP)

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Natar Mesaiped	Oafco 6			Engineering	
Qatal, Mesaleeu	Qaito 0			Procurement	
		42	Frame 6E	Construction	Under Execution
Algeria, Arzew	Sonatrach			Engineering	
Ŭ				Procurement	
		160	Frame 6E	Construction	Under Execution
Nigeria, Afam	Rivers State			Engineering	
5	Government of Nigeria			Procurement	
	5	180	GT13E	Construction	Under Execution
Nigeria, Afam	Rivers State			Engineering	
0	Government of Nigeria			Procurement	
	Ŭ	180	GT13E	Construction	2012
Qatar, Ras Laffan	Ras Laffan			Engineering	
	LNG Co. Ltd.			Procurement	
		78 (2GTG)	PG6561B	Construction	2006
Algeria, Berrouaghia	SKB			Engineering	
	(Sonatrach, Sonelgaz)			Procurement	
		540 (2GTG)	V94.3A	Construction	2005
Nigeria, Bonny Island	Nigeria			Engineering	
	LNG Ltd.			Procurement	
		78 (2GTG)	PG6561B	Construction	2005
Qatar, Ras Laffan	Ras Laffan			Engineering	
	LNG Co. Ltd.			Procurement	
		78 (2GTG)	PG6561B	Construction	2005



SIMPLE CYCLE POWER PLANTS (SCPP)

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Nigeria, Bonny Island	Nigeria			Engineering	
0	LNG Ltd.			Procurement	
		78 (2GTG)	PG6561B	Construction	2003
Qatar, Ras Laffan	Ras Laffan			Engineering	
	LNG Co. Ltd.			Procurement	
		39 (1GTG)	PG6561B	Construction	2003
Nigeria, Bonny Island	Nigeria			Engineering	
	LNG Ltd.			Procurement	
		153 (4GTG)	PG6561B	Construction	2000
Algeria, Bir Rebaa North	Agip Africa			Engineering	
	Ltd./Sonatrach	20 (1GTG)	Frame 5	Procurement	1996
Algeria, Hamra	Sonatrach			Engineering	
				Procurement	
		50 (2GTG)	Frame 5	Construction	1995
Iran, Esfahan	Iran Chemical Industries			Engineering	
	Investment Co. (ICIIC)	11 (1GTG)	PGT10	Procurement	1994
Italy, Taranto	Serleasing			Engineering	
				Procurement	
		39 (1GTG)	Frame 6	Construction	1994
Algeria, Rhourde Nouss	Sonatrach			Engineering	
				Procurement	
		31 (3GTG)	PGT10	Construction	1988



SIMPLE CYCLE POWER PLANTS (SCPP)

COUNTRY LOCATION	CLIENT	CAPACITY MW	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Bahrain, Sitra	Gulf Petrochemical			Engineering	
	Industries Co. (GPIC)			Procurement	
		26 (2GTG)	Frame 5	Construction	1985
Egypt, Ras Budran	Suez Oil Company			Engineering	
	(SUCO)	27 (2GTG)	Frame 5	Services	1985
Libya, Bu Attifel	Agip Ltd.			Engineering	
				Procurement	
		40 (4GTG)	PGT10	Construction	1985
Abu Dhabi, Ruwais	Abu Dhabi National Oil			Engineering	
	Company (ADNOC)	96 (4GTG)	Frame 5	Services	1982
Pakistan, Goth Machhi	Fauji Fertilizer			Engineering	
	Co. Ltd. (FFC)			Procurement	
		50 (2GTG)	Frame 5	Construction	1982
Libya, Azzawiya	Azzawiya Oil			Engineering	
	Refining Co. Inc. (ARC)			Procurement	
		25 (1GTG)	Frame 5	Construction	1982
Italy, Augusta	Raffinerie Siciliane			Engineering	
	Olii Minerali (RASIOM)			Procurement	
		32 (2GTG)	Fiat TG16	Construction	1968
Argentina, Pico Truncado	Gas del Estado			Engineering	
		24 (2GTG)	PGT16	Services	1965
Italy,	Raffineria del Po S.p.A.			Engineering	
Sannazzaro de' Burgondi		21 (2GTG)	GT10	Services	1963









THE RECENT DECADE HAS SEEN A LARGE INCREASE IN IGCC CAPACITY ON STREAM, DUE TO THE RISING ADOPTION OF THIS TECHNOLOGY IN TWO MAIN CONTEXTS:

TO SOLVE THE OIL REFINERIES' "FUEL OIL PROBLEM", NAMELY TO CONVERT LOW VALUE BOTTOM-OF-THE-BARREL OIL FRACTIONS INTO VALUABLE PRODUCTS, LIKE ELECTRIC POWER;

TO OFFER A CLEANER AND MORE EFFICIENT PROCESS ROUTE TO PRODUCE POWER FROM COAL.

Through more than a decade of a thorough involvement with IGCC, particularly in refinery settings for bottoms-of-the-barrel upgrading, Saipem has gained an enormous experience in designing, building, commissioning and operating three world-class IGCC plants in Italy, based on two leading gasification technologies. The ISAB and Sarlux plants are still the world's largest. A fourth plant built with our involvement is under completion in China. These plants are fed with either visbroken tar, vacuum residue or SDA bottoms, and apply a number of different process and equipment choices.







With a total capacity on stream of over 3,500 MWth (IGCC plants 1,580 MWe), through a considerable but practical learning and experience curve, Saipem has gained the full confidence to design, build, start-up and generally to apply the IGCC technologies economically and reliably. This is relevant, in as much as the attractiveness of IGCC was initially counterbalanced by a perception of unfavourable and potentially risky economics and by low power availability factors in earliest units. Most importantly, Saipem has learned and demonstrated how to achieve high power production efficiencies very early after start-up. The figure illustrates how the power production availability was achieved ever earlier, with each subsequent unit designed and built.

IGCC POWER PLANT AVAILABILITY



From: "17 YEARS OF EXPERIENCE GAINED FROM THREE GASIFICATION PLANTS OPERATING IN ITALY", by Vincenzo Fabio Ciccotosto, Pierpaolo Mezzanotte, Giuseppe Pitari, Filippo Galletta, Vincenzo Rottino, Daslav Brkic, presented at the "Clean Coal Technologies 2009" Third International Freiberg Conference on IGCC and XtL Technologies, Dresden, Germany, May 18-21, 2009

COUNTRY LOCATION	CLIENT	CAPACITY MW TECHNOLOGY	TURBINE MODEL	SCOPE OF WORK	ON STREAM
China, Fujian	Fujian Refining and Petrochemical Co. Ltd. (Sinopec,			Engineering Services	
	Saudi Aramco, ExxonMobil)	260 (2GTG) (Shell, Lurgi)	9E		2009
Italy, Sannazzaro dei Burgundi	EniPower, Eni R&M	260 (1GTG+1STG) (Shell, Dow, UOP)	V94.2	Engineering Procurement Construction	2006

SANNAZZARO 260 MW IGCC POWER PLANT - ITALY

An IGCC complex, based on Shell Gasification Technology, designed and built adjacently to the Eni R&M refinery in Sannazzaro. The gasification unit is fully integrated in the refinery, whereas the much larger power plant section, owned by EniPower, can operate either on syngas, on externally supplied natural gas or on their combinations.



GAS TURBINE GENERATOR						
n°	model		capacity	supplier		
1	V94.2		170 MW	Ansaldo		
HEAT RECOVERY STEAM GENERATOR						
n°	pressure level	steam	re-heating	supplier		
1	2	265 t/h	YES	NECCT		
STEAM TURBINE GENERATOR						
n°	capacity	casing	discharge	supplier		
1	88 MW	SINGLE	RADIAL	Ansaldo		

COUNTRY LOCATION	CLIENT	CAPACITY MW TECHNOLOGY	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Italy, Sarroch	Sarlux S.r.l. (Saras, Enron)	550 (3GTG+3STG) (Texaco, UOP, Lurgi)	PG9171E	Engineering Procurement Construction	2001

SARROCH 550 MW IGCC POWER PLANT - ITALY

The largest operating IGCC plant in the world, utilizing Texaco (today GE) gasification technology.



GAS TURBINE GENERATOR							
n°	model		capacity	supplier			
3	PG9171E		123 MW	G.E.			
HEAT RECOVERY STEAM GENERATOR							
n°	pressure level	steam	re-heating	supplier			
3	2	250 t/h	NO	Ansaldo			
STEAM TURBINE GENERATOR							
n°	capacity	casing	discharge	supplier			
3	65 MW	SINGLE	AXIAL	G.E.			

COUNTRY LOCATION	CLIENT	CAPACITY MW TECHNOLOGY	TURBINE MODEL	SCOPE OF WORK	ON STREAM
Italy, Priolo	ISAB Energy S.r.I. (ISAB, Mission Energy)	512 (2GTG+2STG) (Texaco, UOP, Lurgi)	V94.2	Engineering Procurement Construction	2000

PRIOLO 512 MW IGCC POWER PLANT - ITALY

The first and one of the largest "new wave" IGCC plants in a refinery setting to be designed and started up in late '90s, by now has reached almost a decade of operations with power availability exceeding 90%. The thorough application of the Lessons Learnt from this project to subsequent ones has yielded significant benefits, particularly in improved operability and power availability.



GAS TURBINE GENERATOR							
n°	model	model		supplier			
2	V94.2	170 MW		Ansaldo			
HEAT RECOVERY STEAM GENERATOR							
n°	pressure level	steam	re-heating	supplier			
2	3	300 t/h YES		Ansaldo			
STEAM TURBINE GENERATOR							
n°	capacity	casing	discharge	supplier			
2	115 MW	SINGLE	RADIAL	Ansaldo			



COUNTRY LOCATION	CLIENT	CAPACITY MW	STEAM GENERATION	SCOPE OF WORK	ON STREAM
Abu Dhahi	Abu Dhabi Gas			Engineering	
Shah Oil Field	Development Co. Ltd.			Procurement	
		120 (4STG)		Construction	Under Execution
Libya, Mellitah	Agip Gas BV			Engineering	
		75 (0070)	4.000 + "	Procurement	0007
		75 (3STG)	1,320 t/h	Construction	2007
Iran,	Hyundai Engineering			Engineering	
South Pars Gas Field	& Construction Co.	120 (4STG)	960 t/h	Services	2004
Turkey, Izmit	Turkiye Refinerileri			Engineering	
	Anonim Sirketi			Procurement	
	(TUPRAS)	15 (1STG)		Construction	1996
Turkey, Izmit	Turkiye Refinerileri			Engineering	
	Anonim Sirketi			Procurement	
	(TUPRAS)	12 (1STG)		Construction	1993
Italy, Brescia	Azienda Servizi			Engineering	
	Municipalizzati			Procurement	
	di Brescia (ASM)		230 t/h	Construction	1987
Nigeria, Warri	Nigerian National			Engineering	
	Petroleum Corp. (NNPC)			Procurement	
		15 (1STG)		Construction	1987



COUNTRY LOCATION	CLIENT	CAPACITY MW	STEAM GENERATION	SCOPE OF WORK	ON STREAM
Nigeria, Warri	Nigerian National Petroleum Corp. (NNPC)			Engineering Procurement	
		30 (2STG)	77 t/h	Construction	1980
Brazil	Petroleo Brasilero S.A.			Engineering	
Sao José dos Campos	(Petrobras)	30 (3STG)	250 t/h	Services	1978
Iran, Tabriz	National Iranian			Engineering	
	Oil Company (NIOC)	28 (3STG)		Procurement	1977
		20 (3313)			
Poland, Gdansk	Polimex-Cekop for Pafiporia Cdapska S A	20 (2STC)		Engineering	1076
	Kannena Guanska S.A.	30 (2310)		2011/10/03	1770
Libya, Azzawiya	Azzawiya Oil Refining			Engineering	
	CO. (ARC)	15 (3STG)		Construction	1975
Italy Ottana Sardinia	Chimica e Fibra del Tirso	140 (25TC)		Engineering	1072
Ottalia, Saluillia		140 (2316)		261 VICES	14/2
Iran, Shiraz	National Iranian Oil			Engineering	
	Company (NIOC)	((2010)		Procurement	4070
		6 (251G)		Construction	1973



COUNTRY LOCATION	CLIENT	CAPACITY MW	STEAM GENERATION	SCOPE OF WORK	ON STREAM
italy, Ravenna	Anic S.p.A.	113 (3STG)		Services	1973
Italy, Manfredonia	Anic S.p.A.			Engineering	
,	·	42 (2STG)	168 t/h	Services	1972
Croatia, Mlaka	INA - Rafinerija Nafte			Engineering	
	,	8 (1STG)		Services	1970
Bosnia, Bosanski Brod	Rafinerija			Engineering	
	Nafte / Energoinvest	10 (1STG) Engineering		Procurement	1969
India, Madras	Madras Refineries Ltd.			Engineering	
				Procurement	
		22 (2STG)		Construction	1968
Croatia, Rijeka	INA - Rafinerija Nafte			Engineering	
	,	4 (2STG)		Procurement	1964



COUNTRY LOCATION	CLIENT	CAPACITY MW	STEAM GENERATION	SCOPE OF WORK	ON STREAM
Tunisia, Bizerta	Societé Tunisienna des			Engineering	
lamola, bizorta	Industries de Raffinage			Procurement	
	(STIR)	3 (2STG)		Construction	1964
Ghana, Tema	Ganaian Italian			Engineering	
	Petroleum Co. (GHAIP)			Procurement	
		2 (2STG)		Construction	1963
Switzerland,	Raffinierie du			Engineering	
Collombey	Sud-Ouest S.A.			Procurement	
		15 (1STG)		Construction	1963
Morocco,	Societé Anonyme			Engineering	
Mohammedia	Marocaine de l'Industrie			Procurement	
	du Raffinage (SAMIR)	2 (2STG)		Construction	1963
Italy, Gela	Anic S.p.A.			Engineering	
		280 (4STG)	67 t/h	Services	1963



WASTE TO ENERGY POWER PLANTS (WTEPP)

COUNTRY LOCATION	CLIENT	PROJECT	CAPACITY	SCOPE OF WORK	ON STREAM
Italy, Filago	Eco-Lombardia 4	Waste to Energy - plant for thermal treatment of Industrial + toxic and hazardous waste and refuse derived fuels	200 t/d	EPC	2003
Italy, Ravenna	Ambiente	Waste to Energy - plant for thermal treatment of industrial + toxic and hazardous and RDF	100 t/d	EPC	1997
Italy, Bolzano	BOLZANO MUNICIPALITY	Waste to Energy - 1st and 2nd line of the plant for thermal treatment of municipal solid waste	400 t/d	EPC	1987 - 1994
Italy, Schio	Schio Consortium	Waste to Energy - 1st and 2nd line of the plant for thermal treatment of municipal solid waste	160 t/d	EPC	1982 - 1991
Italy, Pollenza	CON.SMA.RI	Waste to Energy - plant for thermal treatment of municipal solid waste	100 t/d	EPC	1987

